

# UNIVERSITY OF CALIFORNIA.

## AGRICULTURAL EXPERIMENT STATION.

BULLETIN NO. 5.

[In order to render the results of investigations and experiments conducted by the Agricultural Department of the University of California more quickly and more generally available than has heretofore been done through the annual or biennial reports, it is proposed to embody hereafter, in the form of "Bulletins," to be issued as often as may seem desirable, reports of results, as well as such other discussions, information or answers to questions as may be of general interest. It is intended to make these bulletins, as a rule, short enough for insertion in the daily or weekly papers of the State, and proof-slips of the same will be regularly mailed to papers applying therefor. The substance of these bulletins will ultimately be embodied in a more complete and connected form, in the annual reports of the College of Agriculture.]

### Notice Regarding Distribution of Plants.

Upwards of 250 applications for plants heretofore offered for distribution having been received at this date, notice is given that the supply of all but the following is exhausted: Catalpa, New Zealand flax, ramie, insect powder plant, and Angola Panic (evergreen millet). These can still be supplied on the conditions heretofore announced.

Among the applications received, some few localities are represented by ten to as many as eighteen distinct applications. In accordance with the objects of this distribution, viz: To test the success or failure of plants that promise to be of economic importance, in as many localities as possible, it is obvious that distinctions must be made in favor of *different* localities, as against multiplying the invoices sent to any *one*. Again, applications are sometimes received asking for plants entirely unadapted to the climate of the locality concerned. The supply being limited, it is but fair to give precedence, in such cases, to such regions as can practically be considered favorable to the success of the plants.

### Seed of the Quinoa Plant.

Through the liberality of Mr. Wm. N. Meeks, of Oakland, the station has received for trial and distribution a sack of fresh seed of the "Quinoa"\* plant of Chile. This seed will be mailed to applicants in packages of one-half pound or one pound, as may be desired, upon remittance of the corresponding expense—10 cents or 20 cents. Larger quantities may be forwarded to a few who may wish to make the trial on a larger scale.

The Quinoa plant (*Chenopodium Quinoa*) be-

longs to the natural family which, among important culture plants, such as the beet and spinach, contains a large proportion of the most common weeds, viz.: The various kinds of goosefoot, the "lamb's quarter," and others. The Quinoa plant is very similar to a kind of "lamb's quarter" that grows abundantly on the Sacramento river, and is esteemed as a good feed for sheep and fowls. But the seeds of the Quinoa are larger, being about the size of a mustard seed. This seed, which is borne in great abundance, and when cleaned of its dark-colored husk is white, is a common article of food in the high plateau and mountain districts of Chili and Peru; it is made into cakes, or eaten boiled as porridge, or in soups. Its flavor is somewhat peculiar—"beany"—but it is very nutritious. As it will grow in any climate adapted to the potato, it has been cultivated to some extent in France and Germany but for its leaves (which are used as a pot-herb like spinach, and for forage) rather than for the seed, the latter being there chiefly used as food for fowls. These would probably also be its main uses in California, where it would find its most congenial climates in the coast region, and in the higher valleys of the Sierras. A high summer temperature is not favorable to.

According to the statement of a letter addressed to Messrs. Dickson de Wolf & Co., of San Francisco, by the sender of the present invoice of seed, the latter is sown in spring, broadcast, on light soils, then lightly brushed in, and irrigated gently so as not to form a crust. The seed comes up quickly, and according to European practice, is then thinned out, first to four, and later to twelve inches apart. It is also sometimes sown in seed beds and then transplanted into drills. The development of the plant is rapid, like that of spring grain. When the seed is ripe the plant is cut and thrashed like grain; the separation of the husk is usually a separate operation, as in the case of rice or barley, but the seed now received is hullless and white.

When irrigated, after cutting the stem for use as a pot-herb or for forage, the plant continues to put out fresh leaves during the season until frost. The Quinoa will readily bear rich and freshly manured soils, but does well on land only moderately rich. Now that a supply of good seed has been secured, its merits for cultivation in California should be thoroughly tested.

E. W. HILGARD.

Berkeley, Feb. 2, 1884.

\*Pronounced Kinnoh-a.